

PROJECT SHEET

COASTAL PROTECTION - COTONOU, BENIN
COASTLINE FIXATION TO PREVENT MORE EROSION
IN A DENSELY POPULATED AREA

INTRODUCTION

The project was developed to arrest coastline erosion in the densely-populated centre of Cotonou caused by two phenomena: erosion and human interference along the West African coastline.

PROJECT SPECIFICATIONS

After Contract award, the first production and installation activities began in June 2012. Construction was completed in July 2014. The project scope encompassed the supply of the materials and the construction of seven groins (EPIs), a revetment with an approximate length of 300 meters, and a breakwater. A total of 2,680 meters of groin, revetment or breakwater have been built and 7.5 kilometers of coastline have been fixated.

The materials supplied consisted of:

- 2,441 concrete Xblocs measuring 4 m³
- 32,000 m² of geotextile
- 530,000 tonnes of rock of miscellaneous categories. Including concrete aggregates, 545,000 tonnes of raw rock material corresponding to 21,750 truckloads was transported to the site, approximately 3,500 tonnes of cement in 137 twenty-foot containers was transported to the site.

The Xbloc elements were produced under our own management using in-house expertise. A concrete laboratory was imported and operated by in-house personnel to ensure close quality monitoring and compliance with the specifications.

Boskalis staff supervised the quarry operations. The quarries were located approximately

FEATURES

Client	Ministère de l'Urbanisme, de l'Habitat et de l'Assainissement, Benin
Location	Cotonou, Benin
Construction period	June 2012 - July 2014
Contractor	Boskalis International



- Location map
- Overview 6 km coastline project area starting at EPI 1 towards the east
- The west, showing the natural accretion of coastline as the direct result of the construction of the groins and breakwater.





180 kilometers inland. Boskalis was responsible for loading from the stockpiles in the quarries. The installation spread consisted of one Hitachi 1200, three Caterpillar 385s, three wheelloaders Caterpillar 980, two Caterpillar 365s and four Caterpillar 740 dumpers.

MAIN CHALLENGES

The main challenges encountered during project preparation and execution were:

- Due to the large number of stakeholders, information management was essential to ensure continuity for the project on all fronts. The key element for success was to safeguard transparency and ensure that all appropriate stakeholders received the required information timely.
- A large part of the project was located in densely-populated areas. A tailored information

strategy and timely notification of the local inhabitants prevented problems and incidents with the inhabitants of the affected areas.

- To continue working effectively during the bad sea-state season, some working methods were adapted and an innovative frame for controlled geotextile placement was developed. This setup succeeded and the project was finished early as a result.
- The implementation of lessons learnt of previous projects in similar circumstances led to problem-free Xbloc production, and controlled quarry and transport operations.

RESULT

With the completion of this project, the inhabitants and entrepreneurs in the coastal zone of Cotonou can stay in their houses, offices or factories without being concerned about losing them to coastal erosion, with an increase in the economic output of the affected area as a result. The project also demonstrates that Boskalis can execute a project of this kind in challenging circumstances within the required time frame and according to specifications while cooperating with many large and small stakeholders.



- D** EPI Sifato under construction
- E** Overview 7 km coastline project area starting at EPI 7 towards the west
- F** Project overview towards the east, with in the foreground the Sifato stockpile area and the concrete plant area with the stockpile of Xbloccs. Sifato in its original state on the right side of the picture

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